

Aerodynamic Efficiency Enhancements for Air Vehicles, Phase I

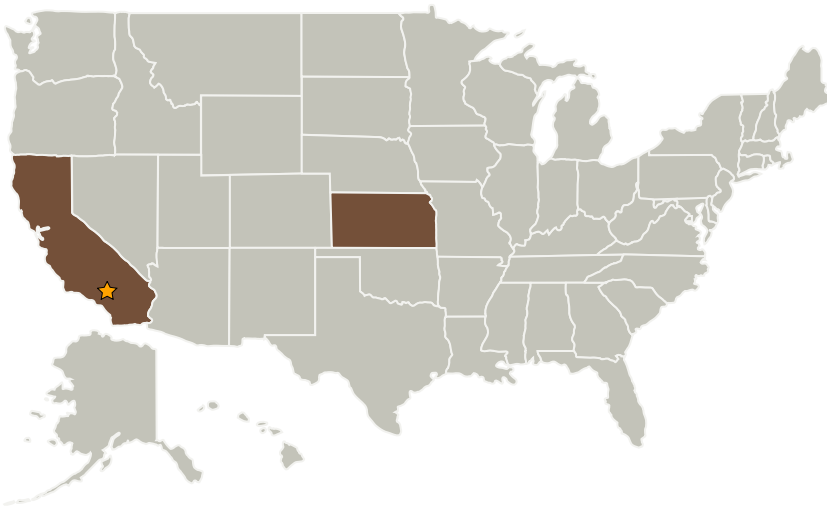
Completed Technology Project (2005 - 2006)



Project Introduction

The need for aerodynamics-based efficiency enhancements for air vehicles is presented. Concepts are presented for morphing aircraft, to enable the aircraft to optimize its configuration for various flight regimes. Using simulations, wind tunnel testing, and benchtop hardware development, the feasibility of the concepts will be established in Phase I. In Phase II, flight testing will be performed to refine and finalize the designs. The concepts involve tailoring of the wing using adaptive surfaces to achieve drag reduction. This translates to benefits in range, endurance, maneuvering and speed characteristics of the air vehicle.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Armstrong Flight Research Center(AFRC)	Lead Organization	NASA Center	Edwards, California
Jacobs Engineering Group, Inc.	Supporting Organization	Industry	Dallas, Texas



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Armstrong Flight Research Center (AFRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations

California

Kansas

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Tom Sherwood

Technology Areas

Primary:

- TX15 Flight Vehicle Systems
 - └ TX15.1 Aerosciences
 - └ TX15.1.6 Advanced Atmospheric Flight Vehicles